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Kevin G. Rooney, Reg. No. 36,330

12/23/03
Date

Applicant(s):	David Lohr et al
Application No.:	09/941,186
Filed:	August 28, 2001
Group Art Unit:	1724
Confirmation No.:	5985
Examiner:	Minh Chau Thi Pham
For:	Incubator Having Combined HEPA and VOC Filter
Atty Docket No.:	FSI-83

Cincinnati, Ohio December 23, 2003

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

TRANSMITTAL OF APPEAL BRIEF (PATENT APPLICATION-37 CFR 1.192)

1. Transmitted herewith in triplicate is the APPEAL BRIEF in this application with respect to the Notice of Appeal filed on October 29, 2003.

2. **STATUS OF APPLICANT**

[X] other than a small entity
[ ] small entity

3. FEE FOR FILING APPEAL BRIEF

Pursuant to 37 CFR 1.17(f) the fee for filing the Appeal Brief is:

[ ] small entity	$165
[X] other than small entity	$330

Appeal Brief fee due $330

4. EXTENSION OF TIME

Applicant petitions for an extension of time under 37 CFR 1.136 for the total number of months checked below:

	Fee for Extension of:	other than small entity	Fee for small entity
____	one month	$ 110.00	$ 55.00
____	two months	$ 420.00	$210.00
____	three months	$ 950.00	$475.00
____	four months	$1,480.00	$740.00

Fee: $_____

If an extension of time is required please consider this a petition therefor.

(check and complete the next item, if applicable)

[ ] An extension for _____ months has already been secured and the fee paid therefor of $_____ is deducted from the total fee due for the total months of extension now requested.

Extension fee due with this request $_____

or

(b) [X] Applicants believe that no extension of term is required. However, this conditional petition is being made to provide for the possibility that applicant has inadvertently overlooked the need for a petition and fee for extension of time.

5. **TOTAL FEE DUE**

The total fee due is:

Appeal Brief fee:	$330.00
Extension fee (if any):	$_____
Total Fee Due:	**$330.00**

6. **FEE PAYMENT**

[X] Attached is a check in the sum of $330.00
[ ] Charge Account No. 23-3000 the sum of $_____, a duplicate of this transmittal is attached.

7. **FEE DEFICIENCY**

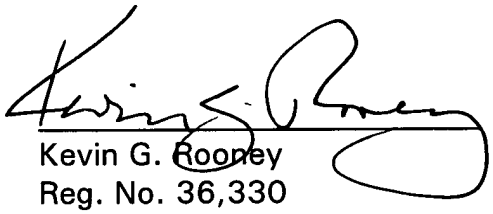
[X] If any additional extension and/or fee is required, this is a request therefor and to charge Account No. 23-3000. A duplicate of this transmittal is attached for that purpose.

and/or

[X] If any additional fee for claims is required, charge Account No. 23-3000. A duplicate of this transmittal is attached for that purpose.

Respectfully submitted,

WOOD, HERRON & EVANS, L.L.P.



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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte Lohr et al.
Appeal No. _____

Applicant(s):	David Lohr et al.
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Cincinnati, OH 45202 December 23, 2003

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Sir:

BRIEF ON APPEAL

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INDEX

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BRIEF ON APPEAL

I. Real Party in Interest

The real party in interest is Thermo Forma, Inc., of Marietta, Ohio, which is the assignee of the present invention.

II. Related Appeals and Interferences

There are no related appeals or interferences known to Appellants or the Appellants' legal representative that will directly affect or be directly affected by or have a bearing on the decision of the Board in the present appeal.

III. Status of th Claims

Claims 1-10 and 13-17 are pending and are subject to this appeal. Claims 11 and 12 were canceled without prejudice in an Amendment filed May 20, 2003.

Claims 1-10 and 13-17 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Hugh, U.S. Patent No. 6,117,687 (Hugh '687), in view of Nagafune et al., U.S. Patent No. 5,827,339 (Nagafune '339), Kudirka et al., U.S. Patent No. 4,737,173 (Kudirka '173) and Hunter et al., U.S. Patent No. 4,559,066 (Hunter '066).

IV. Status of Amendments

No amendments were filed subsequent to the final rejection in this case.

V. Summary of the Invention

The invention of the present application provides improved control of the atmosphere within an incubator. As shown in Figs. 1-3, the incubator 10 includes a cabinet 12 having top, bottom, rear and side walls defining an interior chamber 14 of the incubator 10. Access to this interior chamber 14 is provided by a door 16 pivotally mounted to the front of the incubator 10. A blower 100 mounts within the chamber 14 and includes both an inlet 114 and an outlet 106 for aiding in air circulation within the chamber 14. The chamber 14 also includes an

upper plenum 110 partially formed by a plate 102 mounted across the chamber 14 and between the inlet 114 and outlet 106 of the blower.

The circulation of air in the incubator 10 proceeds through this upper plenum 110, which then adjoins a side plenum 132 that conveys the air to an opening 134 in the base of the process chamber 14. To this end, the blower 100 draws gas through VOC and HEPA filter elements 117 and 119, respectively, located at the top of the process chamber 14. Filtered gas is discharged from the outlet 106 of the blower and flows to the opening 134 in the base of the process chamber via the upper plenum 110 and the side plenum 132. The filtered gas is exhausted from the opening 134 over a water-filled pan 136 to humidify the filtered gas as it re-enters the process chamber 14.

A VOC filter 117 is operatively connected to the inlet 114 of the blower to filter VOC's from the atmosphere of the incubator 10. This VOC filter 117 surrounds a HEPA filter 119 that removes particulate matter from the atmosphere of the chamber 10. The VOC and HEPA filters 117 and 119, respectively, are integrated into the air flow system of the incubator chamber 14.

Moreover, the VOC and HEPA filter 117 and 119 are contained directly within the gaseous environment of the incubator chamber 14. One benefit of this improvement is that VOC contamination is eliminated from the gas mixture as it is quickly and completely circulated through the incubator 10. Since the combined filter 116 is integrated as part of the standard blower system of the incubator, and because the air moves at 6-7 cfm through the filter, the entire mass

of air in the processing chamber 14 is filtered approximately once a minute in a chamber having a volume of 6.5 cfm. This filtering occurs much more rapidly than in incubators of the prior art while eliminating both VOC's and particulate materials. As a result, the purity of the gas mixture within the process chamber will be enhanced over other filter systems.

Additionally, the location of the VOC and HEPA filters 117 and 119 within the interior of the incubator chamber tremendously simplifies any repair or replacement procedures over those necessary with incubators of the prior art. The filters 117 and 119 are easily removed and replaced by a researcher or other user from within the chamber 114 and do not require the removal of side panels or other hardware that might involve exposure to high voltage wiring and/or components.

VI. Issues

1. The first issue on appeal is whether the Examiner has presented a prima facie case of obviousness under 35 U.S.C. § 103(a) in rejecting claims 1, 8 and 9.

2. The second issue on appeal is whether the Examiner has presented a prima facie case of obviousness under 35 U.S.C. § 103(a) in rejecting claims 2-7, 10 and 13-17.

VII. Grouping of Claims

For purposes of this appeal, the rejected claims should be grouped together as follows:

1. Claims 1, 8 and 9 should be grouped together and should stand or fall as a single group.

2. Claims 2-7, 10 and 13-17 should be grouped together and should stand or fall as a single group.

VIII. Argument

A. The Rejection of Claims 1, 8 and 9 Under 35 U.S.C. § 103(a)

Claims 1, 8 and 9 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Hugh, U.S. Patent No. 6,117,687 (Hugh '687), in view of Nagafune et al., U.S. Patent No. 5,827,339 (Nagafune '339), Kudirka et al., U.S. Patent No. 4,737,173 (Kudirka '173) and Hunter et al., U.S. Patent No. 4,559,066 (Hunter '066).

Claim 1 is the only independent claim in this group, and is representative of the claims as rejected over prior art. Claim 1 reads:

> 1. A controlled atmosphere incubator comprising:
>
> a heater;
>
> a cabinet including a chamber housing a gaseous environment, said chamber being in thermal communication with the heater and surrounded by top, bottom, rear and

side walls and having a front side with an opening;

an outer door pivotally mounted to said front side;

a high flow rate blower mounted within said cabinet and including an inlet and an outlet;

a plenum formed in said chamber and providing an air circulation path through said chamber, said plenum being partially formed by a plate mounted across said chamber and between the inlet and outlet of said blower; and

a VOC filter removably attached to the inlet of said blower, said VOC filter being disposed within the gaseous environment of said chamber.

The Examiner's rejection of the pending claims should be reversed because the claimed combination of elements in an incubator is neither taught nor suggested by the cited prior art. The Examiner has used improper hindsight to piece together features of the claimed invention. Appellants thus respectfully disagree with the rejections and submit that the claims are patentable in light of the arguments presented below.

Significantly, none of the references cited by the Examiner, either alone or in combination, teach use of a VOC filter in an incubator. While Hugh '687 teaches the benefits of including a (nonchemical) HEPA filter in an incubator, Nagafune '339, Kudirka '173, and Hunter '066 simply do not teach or suggest the use of a chemical filter to remove chemicals from the air inside an incubator

environment. Put another way, none of Nagafune '339, Kudirka '173 or Hunter '066 teach or suggest the need to purify air in an incubator environment, or to position a chemical filter within an incubator. Accordingly, one of ordinary skill in the art would not have been motivated to combine the teachings of Hugh '687 with any of Nagafune '339, Kudirka '173, or Hunter '066 to construct Appellants' claimed invention.

Moreover, even if the references were somehow combined by one of ordinary skill in the incubator art, which Appellants submit is unsuggested, the combination would fail to teach Appellants' claimed relationship between the filters and the blower. For at least these reasons, which will be discussed in greater detail below, Appellants submit that the claimed invention would not have been obvious and the Examiner's rejections should be withdrawn.

1. **References Fail to Suggest or Motivate VOC Filter in an Incubator**

Turning more particularly to the cited references that form the basis of the rejections, Hugh '687 relates to an incubator having an interior chamber surrounded by a heated water jacket. The Examiner admits that Hugh '687 fails to disclose the claimed "VOC filter removably attached to the inlet of the blower" (Final Office Action, page 2, lines 17-18). However, the Examiner states:

> [i]t would have been obvious to a person having ordinary skill in the art at the time the invention was made to adopt a chemical filter as taught by any one of Nagafune et al, Kudirka et al and Hunter et al in the incubator of Hugh since the chemical filter would effectively removes [sic, remove] any undesirable chemical vapors, odors and

smells from the air circulation of the incubator (Final Office Action, page 4, lines 10-14).

The Federal Circuit has held that "[o]bviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination. . . . The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification." In re Fritch, 23 USPQ2d 1780, 1783-84 (Fed. Cir. 1992).

In the present case, there is no suggestion to modify the incubator of Hugh '687 according to the clean dry air generator of Nagafune '339. Nagafune '339 discloses an apparatus for generating chemical-free dry air. The apparatus, including a chemical filter, is designed "for supplying the dry air to outside of the chamber" (col. 1, lines 62-63) and, more specifically, "for prevention of chemical pollution in manufacturing, for example, semiconductor devices" (col. 1, lines 6-8). This stated purpose of Nagafune '339 does not suggest, and actually teaches away from using a filter to support biological cultures within a chamber, as with Hugh '687.

Put another way, the structural differences regarding the use of filters as between the Nagafune '339 and Hugh '687 apparatus speaks to their disparate purposes and operating environments. Namely, the incubator chamber of Hugh '687 internally supports a controlled, gaseous atmosphere inside its chamber and treats air entering the chamber to maintain that atmosphere. To this end, the Hugh

'687 incubator includes HEPA filter to filter "incoming ambient air" in order to minimize "the potential for introducing contamination into the incubator" (col. 4, lines 24-27).

In contrast, the purpose of the Nagafune '339 apparatus is to maximize the introduction of contaminants into its chamber. The "entire" chamber of Nagafune '339 functions to trap foreign materials and chemical mists inside the chamber. This action provides filtered, dry air to the semiconductor etching and storage units outside of the chamber (col. 1, lines 62-63 and col. 2, lines 47-49). Consequently, the Nagafune '339 and Hugh '687 references teach away from each other, and fail to provide the requisite suggestion for modification as asserted by the Examiner.

Furthermore, the Nagafune '339 apparatus generates dry air, while the incubator of Hugh '687 is fitted with a water jacket to produce humid or moist air in the incubator. Therefore, the Examiner's statement that it would have been "obvious" to removably mount a VOC filter within an incubator chamber could only be based on improper analysis using Appellants' own disclosure. With such different utilities, one of ordinary skill in the art would not have been motivated to combine Nagafune '339 with Hugh '687.

Similarly, there is no suggestion or motivation in either of Kudirka '173 or Hugh '687 to combine these references. "[A]n examiner cannot establish obviousness by locating references which describe various aspects of a patent applicant's invention without also providing evidence of the motivating force which

would impel one skilled in the art to do what the patent applicant has done." Ex parte Levengood, 28 USPQ2d 1300, 1302 (B.P.A.I. 1993).

Applying the above rule to Kudirka '173, Fig. 1 of that patent discloses a room air treatment system in which air is drawn through a large particle pre-filter 10, a first carbon filter 20, a second carbon filter 30, and into a blower 40. The air discharged from the blower passes through a fine particle HEPA filter 70 and exits through a final filter 80, which is a combination fine particle filter and carbon filter. However, the system of Kudirka '173 relates to room air treatment and is not intended to purify air in an incubator. This is evidenced by the relatively complicated multi-filter, multi-component air treatment system of Kudirka '173, which would not be effectively utilized from a cost and space standpoint in an incubator. Thus, without further teaching or the benefit of improper hindsight in view of Appellants' own disclosure, one of ordinary skill in the art would not have been motivated to combine these references.

Likewise, there is no suggestion or motivation in either of Hunter '066 or Hugh '687 to combine the two references. Hunter '066 discloses cannister-type cartridge filters for use with pressurized or compressed air and, in particular, for use where the compressed air expands to atmospheric pressure, such as "in relation to exhaust ports of control valves and driven motors" (col. 1, lines 46-56). Hunter '066 does not disclose any accompanying chambers, such as the claimed incubator chamber, to be used in conjunction with the filter. In contrast, the air in the incubator environment of Hugh '687 circulates at atmospheric or slightly higher

pressure. Further, Hunter '066 fails to teach or suggest how the cartridge filter may be adapted for use in the incubator of Hugh '687.

Moreover, while the filters of Hunter '066 are capable of removing vapors, odors and smells from air, Hunter '066 fails to teach or suggest any attachment of such filters to an incubator, let alone positioning the filter inside an incubator chamber. Thus, without further teaching, and without the benefit of improper hindsight of Appellants' own disclosure, one of ordinary skill in the art would not have been motivated to combine Hunter '066 with Hugh '687. "It is impermissible to use the claimed invention as an instruction manual or 'template' to piece together the teachings of the prior art so that the claimed invention is rendered obvious. . . . '[O]ne cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to depreciate the claimed invention.'" In re Fritch, 23 USPQ2d 1780, 1784 (Fed. Cir. 1992)(citation omitted). The Examiner has not pointed to any prior art reference that teaches or suggests removably attaching a filter disposed within an incubator chamber to a blower. For the reasons stated above, the Examiner has failed to set forth a prima facie case of obviousness in rejecting claims 1, 8 and 9 and Appellants respectfully request that these rejections be reversed.

2. **Alleged Combination Still Fails to Suggest Claimed Filter Configuration**

Even if combined, the independent combinations of Nagafune '339, Kudirka '173, and Hunter '066, with Hugh '687, would not have suggested Appellants' claimed arrangement of the VOC filter and the blower. Appellants'

independent claim 1 recites, among other elements, "a VOC filter removably attached to the inlet of said blower." Appellants position the VOC filter before, or upstream of the blower.

In contrast, the apparatus of Nagafune '339 draws air through a primary filter 1 (not taught to be a chemical filter) into a fan 3, and expels the air from fan 3 through a chemical filter 4, and finally through a HEPA filter 5 for channeling into an air-drying unit (Fig. 1, nos. 3, 4, 5, col. 2, lines 23-36 and lines 56-61). Thus, the chemical filter 4 and HEPA filter 5 of Nagafune '339 are positioned after the fan, and not before, as called for in Appellants' independent claim 1. Further, the disclosure of Nagafune '339 fails to suggest positioning filters 4 and 5 before fan 3 to allow chemical-free air to pass through fan 3. In fact, Nagafune '339 teaches that positioning the chemical filter after the fan "allow[s] the air to pass through the chemical filter 4 at a velocity of about 1 m/s to maintain the absorbing efficiency of the chemical mists" (col. 3, lines 9-11), thereby teaching away from Appellants' claimed arrangement.

Accordingly, the combination of Hugh '687 and Nagafune '339 would only suggest placing the chemical filter and the HEPA filter after the blower, or placing the chemical filter after the blower and the HEPA filter before the blower. Neither of these orientations disclose placing the chemical filter before the blower, as called for in Appellants' claims. Appellants' attachment of the VOC filter to the inlet of the blower allows the VOC filter to be positioned within the incubator. This feature greatly simplifies repair or replacement of the VOC filter by enabling filter

access without the removal of hardware. Similarly, positioning the VOC filter before the blower allows the filter to be contained directly within the chamber atmosphere, which eliminates VOC contamination from the gas circulating in the chamber. None of these advantages would be realized by any hypothetical combination of the cited art. Moreover, the combination of Hugh '687 and Nagafune '339 would not have rendered Appellants' independent claim 1 and dependent claims 8 and 9 obvious to one of ordinary skill in the art.

Similarly, in the room air treatment system of Kudirka '173, the HEPA filter 70 is deliberately positioned after the blower. "Blower assembly 40 is located upstream of HEPA filter 70 so that any carbon particles that may be carried from carbon filters 20 and 30 are trapped in HEPA filter 70" (underlining added, col. 5, lines 12-15). Moreover, Kudirka '173 limits the blower and filter order by stating "the foregoing filters and blower assembly are arranged in cabinet 100 in the order indicated" (Fig. 2 and col. 6, lines 9-10). In contrast, Hugh '687 positions the HEPA filter before the blower. Thus, Kudirka '173 teaches away from Hugh '687 and, on this basis, one of ordinary skill in the art would not be motivated to combine Kudirka '173 and Hugh '687. Even if combined, however, the combination would fail to teach, suggest or motivate a VOC filter attached "to the inlet of said blower" and, therefore, would not have rendered Appellants' independent claim 1 and dependent claims 8 and 9 obvious to one of ordinary skill in the art.

Likewise, the vapor, odor, and smell removing filter of Hunter '066 is not "attached to the inlet of said blower." As previously discussed, Hunter '066 fails to teach or suggest any location of the filter with respect to a blower. Accordingly, a hypothetical combination of Hunter '066 and Hugh '687 would not motivate one of ordinary skill in the art to position a VOC filter at the inlet of a blower, as called for in Appellants' independent claim 1. Therefore, the combination of Hunter '066 and Hugh '687 would not have rendered Appellants' independent claim 1 and dependent claims 8 and 9 obvious to one of ordinary skill in the art. For the reasons stated above, Appellants request that the rejection of claims 1, 8 and 9 be reversed.

B. The Rejection of Claims 2-7, 10 and 13-17 Under 35 U.S.C. § 103(a)

Claims 2-7, 10 and 13-17 also stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Hugh, U.S. Patent No. 6,117,687 (Hugh '687), in view of Nagafune et al., U.S. Patent No. 5,827,339 (Nagafune '339), Kudirka et al., U.S. Patent No. 4,737,173 (Kudirka '173) and Hunter et al., U.S. Patent No. 4,559,066 (Hunter '066).

Claim 10 is the only independent claim in this group, and is representative of the claims as rejected over prior art. Claim 10 reads:

> 1. A controlled atmosphere incubator comprising:
>
> a cabinet including a chamber having walls enclosing an interior incubating space;

a plenum formed in said chamber and providing an air flow path through said chamber;

a high flow rate blower mounted in said air flow path of said chamber, said air flow path extending through said interior incubating space;

a HEPA filter removably mounted within said chamber and in said air flow path to filter air traveling to said blower; and

a VOC filter removably mounted within the gaseous environment of said chamber and coupled to said HEPA filter, wherein one of said VOC filter and said HEPA filter is disposed circumferentially about the other of said VOC filter and said HEPA filter.

The Examiner's rejection of pending claims 2-7, 10 and 13-17 should be reversed because the claimed combination of elements in an incubator is neither taught nor suggested by the cited prior art. The Examiner has used improper hindsight to piece together features of the claimed invention. Appellants thus respectfully disagree with the rejections and submit that the claims are patentable in light of the arguments presented below.

As discussed above, none of the references cited by the Examiner, either alone or in combination, teach use of a VOC filter in an incubator. Nor do any of the references teach circumferentially positioning one of a VOC filter and a HEPA filter about the other, as set forth in claim 10. While Hugh '687 teaches the benefits of including a (nonchemical) HEPA filter in an incubator, Nagafune '339,

Kudirka '173, and Hunter '066 simply do not teach or suggest the use of a chemical filter to remove chemicals from the air inside an incubator environment for all of the reasons previously discussed. Nor do any of the references suggest combining the VOC and HEPA filters as set forth in claim 10.

Furthermore, none of Nagafune '339, Kudirka '173 or Hunter '066 teach or suggest the need to purify air in an incubator environment, or to position the claimed filters within an incubator. Accordingly, one of ordinary skill in the art would not have been motivated to combine the teachings of Hugh '687 with any of Nagafune '339, Kudirka '173, or Hunter '066 to construct Appellants' claimed invention.

Moreover, even if the references were somehow combined by one of ordinary skill in the incubator art, which Appellants submit is unsuggested, the combination would fail to teach additional aspects of Appellants' claimed relationship between the filters and the blower. For at least these reasons, which will be discussed in greater detail below, Appellants submit that the claimed invention would not have been obvious and the Examiner's rejections should be reversed.

1. **References Fail to Suggest or Motivate Filter Combination in an Incubator**

As discussed above in connection with the rejection of claim 1, Hugh '687 relates to an incubator having an interior chamber and fails to disclose the claimed "VOC filter removably attached to the inlet of the blower" (Final Office

Action, page 2, lines 17-18). However, the Examiner stated that it would have been obvious "to adopt a chemical filter as taught by any one of Nagafune et al, Kudirka et al and Hunter et al in the incubator of Hugh" (Final Office Action, page 4, lines 10-14).

For substantially similar reasons as those stated above in connection with the rejection of claim 1, there is no requisite suggestion or motivation to combine the cited references and removably mount a VOC filter in the gaseous environment of an incubator. Moreover, there is no suggestion or motivation offered by the Examiner or within the cited references for circumferentially positioning one of a VOC filter and a HEPA filter about the other as set forth in claim 10. Thus, without further teaching, and without the benefit of improper hindsight of Appellants' own disclosure, one of ordinary skill in the art would not have been motivated to combine any of Nagafune '339, Kudirka '173 or Hunter '066 with Hugh '687. "It is impermissible to use the claimed invention as an instruction manual or 'template' to piece together the teachings of the prior art so that the claimed invention is rendered obvious. . . . '[O]ne cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to depreciate the claimed invention.'" In re Fritch, 23 USPQ2d 1780, 1784 (Fed. Cir. 1992)(citation omitted). For the reasons stated above, the Examiner has failed to set forth a prima facie case of obviousness for rejection of claims 2-7, 10 and 13-17 and Appellants respectfully request that these rejections be reversed.

2. **Alleged Combination Still Fails to Suggest Claimed Filter Configuration**

Even if combined, the independent combinations of Nagafune '339, Kudirka '173, and Hunter '066, with Hugh '687, would not have suggested Appellants' claimed combination of a VOC filter and a HEPA filter removably mounted within an incubator chamber to filter air traveling to a blower.

In contrast, the chemical and HEPA filters of Nagafune '339 are positioned after or downstream of a fan. Accordingly, the combination of Hugh '687 and Nagafune '339 would only suggest placing the chemical filter and the HEPA filter after the blower, or placing the chemical filter after the blower and the HEPA filter before the blower. Furthermore, neither of these references disclose circumferentially positioning one of a VOC filter and a HEPA filter about the other, or placing the resultant VOC/HEPA filter combination before the blower, as called for in claim 10. Moreover, and with further regard to the hypothetical Hugh '687 and Nagafune '339 combination where the chemical filter is placed after the blower and the HEPA filter before, no teaching exists to couple the chemical filter to the HEPA filter as set forth in claim 10. Thus, the combination of Hugh '687 and Nagafune '339 would not have rendered Appellants' independent claim 10 and dependent claims 2-7 and 13-17 obvious to one of ordinary skill in the art.

Similarly, in the room air treatment system of Kudirka '173, the HEPA filter 70 is deliberately positioned after the blower. Moreover, Kudirka '173 limits the blower and filter order by stating "the foregoing filters and blower assembly are arranged in cabinet 100 in the order indicated (Fig. 2 and col. 6, lines 9-10). In

contrast, Hugh '687 positions the HEPA filter before the blower. Thus, Kudirka '173 teaches away from Hugh '687 and, on this basis, one of ordinary skill in the art would not be motivated to combine Kudirka '173 and Hugh '687. Even if combined, however, the combination would fail to teach, suggest or motivate a VOC filter and a HEPA filter positioned "to filter air traveling to said blower" and therefore, would not have rendered Appellants' independent claim 10 and dependent claims 13-17 obvious to one of ordinary skill in the art.

As previously discussed, Hunter '066 fails to teach or suggest <u>any</u> location of the filter with respect to a blower. Accordingly, a combination of Hunter '066 and Hugh '687, if combined, would not suggest to one of ordinary skill in the art, positioning a VOC/HEPA filter combination such that it filters air traveling to a blower, as called for in Appellants' independent claim 10. Therefore, the combination of Hunter '066 and Hugh '687 would not have rendered Appellants' independent claim 10 and dependent claims 2-7 and 13-17 obvious to one of ordinary skill in the art. For the reasons stated above, Appellants request that the rejection of claims 2-7, 10 and 13-17 be reversed.

IX. Conclusion

For the reasons stated, Appellants respectfully urge the Board to reverse the rejection of claims 1-10 and 13-17.

Respectfully submitted,

WOOD, HERRON & EVANS, L.L.P.

By: _____
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APPENDIX OF CLAIMS

1. (Original) A controlled atmosphere incubator comprising:

a heater;

a cabinet including a chamber housing a gaseous environment, said chamber being in thermal communication with the heater and surrounded by top, bottom, rear and side walls and having a front side with an opening;

an outer door pivotally mounted to said front side;

a high flow rate blower mounted within said cabinet and including an inlet and an outlet;

a plenum formed in said chamber and providing an air circulation path through said chamber, said plenum being partially formed by a plate mounted across said chamber and between the inlet and outlet of said blower; and

a VOC filter removably attached to the inlet of said blower, said VOC filter being disposed within the gaseous environment of said chamber.

2. (Original) The controlled atmosphere incubator of claim 1 further including a HEPA filter coupled to said VOC filter and contained within said chamber.

3. (Original) The controlled atmosphere incubator of claim 2 wherein said VOC filter is disposed circumferentially about said HEPA filter.

4. (Original) The controlled atmosphere incubator of claim 2 wherein said VOC filter further includes a first molecular sieve element.

5. (Original) The controlled atmosphere incubator of claim 4 wherein said first molecular sieve element is selected from the group consisting of carbon, activated carbon, silica, zeolites, and silica zeolites.

6. (Original) The controlled atmosphere incubator of claim 5 wherein said VOC filter further includes a second molecular sieve element.

7. (Original) The controlled atmosphere incubator of claim 6 wherein said second molecular sieve element is selected from the group consisting of carbon, activated carbon, silica, zeolites, and silica zeolites.

8. (Original) The controlled atmosphere incubator of claim 1 wherein said plate is mounted adjacent an upper wall of said chamber to form said plenum between said plate and said upper wall.

9. (Original) The controlled atmosphere incubator of claim 8 wherein said inlet extends below said plate and said VOC filter is mounted adjacent to a lower surface of said plate.

10. (Previously Amended) A controlled atmosphere incubator comprising:

a cabinet including a chamber having walls enclosing an interior incubating space;

a plenum formed in said chamber and providing an air flow path through said chamber;

a high flow rate blower mounted in said air flow path of said chamber, said air flow path extending through said interior incubating space;

a HEPA filter removably mounted within said chamber and in said air flow path to filter air traveling to said blower; and

a VOC filter removably mounted within the gaseous environment of said chamber and coupled to said HEPA filter, wherein one of said VOC filter and said HEPA filter is disposed circumferentially about the other of said VOC filter and said HEPA filter.

11. (Canceled)

12. (Canceled)

13. (Previously Amended) The controlled atmosphere incubator of claim 10 wherein said VOC filter is disposed circumferentially about said HEPA filter.

14. (Previously Amended) The controlled atmosphere incubator of claim 10 wherein said VOC filter further includes a first molecular sieve element.

15. (Original) The controlled atmosphere incubator of claim 14 wherein said first molecular sieve element is selected from the group consisting of carbon, activated carbon, silica, zeolites, and silica zeolites.

16. (Original) The controlled atmosphere incubator of claim 15 wherein said VOC filter further includes a second molecular sieve element.

17. (Original) The controlled atmosphere incubator of claim 16 wherein said second molecular sieve element is selected from the group consisting of carbon, activated carbon, silica, zeolites, and silica zeolites.

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte Lohr et al.
Appeal No. _____

Applicant(s):	David Lohr et al.
Application No.:	09/941,186
Filed:	August 28, 2001
Group Art Unit:	1724
Confirmation No.:	5985
Examiner:	Minh Chau Thi Pham
For:	Incubator Having Combined HEPA and VOC Filter
Atty Docket No.:	FSI-83

Cincinnati, OH 45202 December 23, 2003

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

BRIEF ON APPEAL

I hereby certify that this correspondence is being deposited in triplicate with the U.S. Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on December 23, 2003.

Kevin G. Rooney
Reg. No. 36,330

12/23/03
Date

INDEX

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BRIEF ON APPEAL

I. Real Party in Interest

The real party in interest is Thermo Forma, Inc., of Marietta, Ohio, which is the assignee of the present invention.

II. Related Appeals and Interferences

There are no related appeals or interferences known to Appellants or the Appellants' legal representative that will directly affect or be directly affected by or have a bearing on the decision of the Board in the present appeal.

III. Status of the Claims

Claims 1-10 and 13-17 are pending and are subject to this appeal. Claims 11 and 12 were canceled without prejudice in an Amendment filed May 20, 2003.

Claims 1-10 and 13-17 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Hugh, U.S. Patent No. 6,117,687 (Hugh '687), in view of Nagafune et al., U.S. Patent No. 5,827,339 (Nagafune '339), Kudirka et al., U.S. Patent No. 4,737,173 (Kudirka '173) and Hunter et al., U.S. Patent No. 4,559,066 (Hunter '066).

IV. Status of Amendments

No amendments were filed subsequent to the final rejection in this case.

V. Summary of the Invention

The invention of the present application provides improved control of the atmosphere within an incubator. As shown in Figs. 1-3, the incubator 10 includes a cabinet 12 having top, bottom, rear and side walls defining an interior chamber 14 of the incubator 10. Access to this interior chamber 14 is provided by a door 16 pivotally mounted to the front of the incubator 10. A blower 100 mounts within the chamber 14 and includes both an inlet 114 and an outlet 106 for aiding in air circulation within the chamber 14. The chamber 14 also includes an

upper plenum 110 partially formed by a plate 102 mounted across the chamber 14 and between the inlet 114 and outlet 106 of the blower.

The circulation of air in the incubator 10 proceeds through this upper plenum 110, which then adjoins a side plenum 132 that conveys the air to an opening 134 in the base of the process chamber 14. To this end, the blower 100 draws gas through VOC and HEPA filter elements 117 and 119, respectively, located at the top of the process chamber 14. Filtered gas is discharged from the outlet 106 of the blower and flows to the opening 134 in the base of the process chamber via the upper plenum 110 and the side plenum 132. The filtered gas is exhausted from the opening 134 over a water-filled pan 136 to humidify the filtered gas as it re-enters the process chamber 14.

A VOC filter 117 is operatively connected to the inlet 114 of the blower to filter VOC's from the atmosphere of the incubator 10. This VOC filter 117 surrounds a HEPA filter 119 that removes particulate matter from the atmosphere of the chamber 10. The VOC and HEPA filters 117 and 119, respectively, are integrated into the air flow system of the incubator chamber 14.

Moreover, the VOC and HEPA filter 117 and 119 are contained directly within the gaseous environment of the incubator chamber 14. One benefit of this improvement is that VOC contamination is eliminated from the gas mixture as it is quickly and completely circulated through the incubator 10. Since the combined filter 116 is integrated as part of the standard blower system of the incubator, and because the air moves at 6-7 cfm through the filter, the entire mass

of air in the processing chamber 14 is filtered approximately once a minute in a chamber having a volume of 6.5 cfm. This filtering occurs much more rapidly than in incubators of the prior art while eliminating both VOC's and particulate materials. As a result, the purity of the gas mixture within the process chamber will be enhanced over other filter systems.

Additionally, the location of the VOC and HEPA filters 117 and 119 within the interior of the incubator chamber tremendously simplifies any repair or replacement procedures over those necessary with incubators of the prior art. The filters 117 and 119 are easily removed and replaced by a researcher or other user from within the chamber 114 and do not require the removal of side panels or other hardware that might involve exposure to high voltage wiring and/or components.

VI. Issues

1. The first issue on appeal is whether the Examiner has presented a prima facie case of obviousness under 35 U.S.C. § 103(a) in rejecting claims 1, 8 and 9.

2. The second issue on appeal is whether the Examiner has presented a prima facie case of obviousness under 35 U.S.C. § 103(a) in rejecting claims 2-7, 10 and 13-17.

VII. Grouping of Claims

For purposes of this appeal, the rejected claims should be grouped together as follows:

1. Claims 1, 8 and 9 should be grouped together and should stand or fall as a single group.

2. Claims 2-7, 10 and 13-17 should be grouped together and should stand or fall as a single group.

VIII. Argument

A. The Rejection of Claims 1, 8 and 9 Under 35 U.S.C. § 103(a)

Claims 1, 8 and 9 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Hugh, U.S. Patent No. 6,117,687 (Hugh '687), in view of Nagafune et al., U.S. Patent No. 5,827,339 (Nagafune '339), Kudirka et al., U.S. Patent No. 4,737,173 (Kudirka '173) and Hunter et al., U.S. Patent No. 4,559,066 (Hunter '066).

Claim 1 is the only independent claim in this group, and is representative of the claims as rejected over prior art. Claim 1 reads:

> 1. A controlled atmosphere incubator comprising:
>
> a heater;
>
> a cabinet including a chamber housing a gaseous environment, said chamber being in thermal communication with the heater and surrounded by top, bottom, rear and

side walls and having a front side with an opening;

an outer door pivotally mounted to said front side;

a high flow rate blower mounted within said cabinet and including an inlet and an outlet;

a plenum formed in said chamber and providing an air circulation path through said chamber, said plenum being partially formed by a plate mounted across said chamber and between the inlet and outlet of said blower; and

a VOC filter removably attached to the inlet of said blower, said VOC filter being disposed within the gaseous environment of said chamber.

The Examiner's rejection of the pending claims should be reversed because the claimed combination of elements in an incubator is neither taught nor suggested by the cited prior art. The Examiner has used improper hindsight to piece together features of the claimed invention. Appellants thus respectfully disagree with the rejections and submit that the claims are patentable in light of the arguments presented below.

Significantly, none of the references cited by the Examiner, either alone or in combination, teach use of a VOC filter in an incubator. While Hugh '687 teaches the benefits of including a (nonchemical) HEPA filter in an incubator, Nagafune '339, Kudirka '173, and Hunter '066 simply do not teach or suggest the use of a chemical filter to remove chemicals from the air inside an incubator

environment. Put another way, none of Nagafune '339, Kudirka '173 or Hunter '066 teach or suggest the need to purify air in an incubator environment, or to position a chemical filter within an incubator. Accordingly, one of ordinary skill in the art would not have been motivated to combine the teachings of Hugh '687 with any of Nagafune '339, Kudirka '173, or Hunter '066 to construct Appellants' claimed invention.

Moreover, even if the references were somehow combined by one of ordinary skill in the incubator art, which Appellants submit is unsuggested, the combination would fail to teach Appellants' claimed relationship between the filters and the blower. For at least these reasons, which will be discussed in greater detail below, Appellants submit that the claimed invention would not have been obvious and the Examiner's rejections should be withdrawn.

1. **References Fail to Suggest or Motivate VOC Filter in an Incubator**

Turning more particularly to the cited references that form the basis of the rejections, Hugh '687 relates to an incubator having an interior chamber surrounded by a heated water jacket. The Examiner admits that Hugh '687 fails to disclose the claimed "VOC filter removably attached to the inlet of the blower" (Final Office Action, page 2, lines 17-18). However, the Examiner states:

> [i]t would have been obvious to a person having ordinary skill in the art at the time the invention was made to adopt a chemical filter as taught by any one of Nagafune et al, Kudirka et al and Hunter et al in the incubator of Hugh since the chemical filter would effectively removes [sic, remove] any undesirable chemical vapors, odors and

smells from the air circulation of the incubator (Final Office Action, page 4, lines 10-14).

The Federal Circuit has held that "[o]bviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination. . . . The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification." In re Fritch, 23 USPQ2d 1780, 1783-84 (Fed. Cir. 1992).

In the present case, there is no suggestion to modify the incubator of Hugh '687 according to the clean dry air generator of Nagafune '339. Nagafune '339 discloses an apparatus for generating chemical-free dry air. The apparatus, including a chemical filter, is designed "for supplying the dry air to outside of the chamber" (col. 1, lines 62-63) and, more specifically, "for prevention of chemical pollution in manufacturing, for example, semiconductor devices" (col. 1, lines 6-8). This stated purpose of Nagafune '339 does not suggest, and actually teaches away from using a filter to support biological cultures within a chamber, as with Hugh '687.

Put another way, the structural differences regarding the use of filters as between the Nagafune '339 and Hugh '687 apparatus speaks to their disparate purposes and operating environments. Namely, the incubator chamber of Hugh '687 internally supports a controlled, gaseous atmosphere inside its chamber and treats air entering the chamber to maintain that atmosphere. To this end, the Hugh

'687 incubator includes HEPA filter to filter "incoming ambient air" in order to minimize "the potential for introducing contamination into the incubator" (col. 4, lines 24-27).

In contrast, the purpose of the Nagafune '339 apparatus is to maximize the introduction of contaminants into its chamber. The "entire" chamber of Nagafune '339 functions to trap foreign materials and chemical mists inside the chamber. This action provides filtered, dry air to the semiconductor etching and storage units outside of the chamber (col. 1, lines 62-63 and col. 2, lines 47-49). Consequently, the Nagafune '339 and Hugh '687 references teach away from each other, and fail to provide the requisite suggestion for modification as asserted by the Examiner.

Furthermore, the Nagafune '339 apparatus generates dry air, while the incubator of Hugh '687 is fitted with a water jacket to produce humid or moist air in the incubator. Therefore, the Examiner's statement that it would have been "obvious" to removably mount a VOC filter within an incubator chamber could only be based on improper analysis using Appellants' own disclosure. With such different utilities, one of ordinary skill in the art would not have been motivated to combine Nagafune '339 with Hugh '687.

Similarly, there is no suggestion or motivation in either of Kudirka '173 or Hugh '687 to combine these references. "[A]n examiner cannot establish obviousness by locating references which describe various aspects of a patent applicant's invention without also providing evidence of the motivating force which

would impel one skilled in the art to do what the patent applicant has done." Ex parte Levengood, 28 USPQ2d 1300, 1302 (B.P.A.I. 1993).

Applying the above rule to Kudirka '173, Fig. 1 of that patent discloses a room air treatment system in which air is drawn through a large particle pre-filter 10, a first carbon filter 20, a second carbon filter 30, and into a blower 40. The air discharged from the blower passes through a fine particle HEPA filter 70 and exits through a final filter 80, which is a combination fine particle filter and carbon filter. However, the system of Kudirka '173 relates to room air treatment and is not intended to purify air in an incubator. This is evidenced by the relatively complicated multi-filter, multi-component air treatment system of Kudirka '173, which would not be effectively utilized from a cost and space standpoint in an incubator. Thus, without further teaching or the benefit of improper hindsight in view of Appellants' own disclosure, one of ordinary skill in the art would not have been motivated to combine these references.

Likewise, there is no suggestion or motivation in either of Hunter '066 or Hugh '687 to combine the two references. Hunter '066 discloses cannister-type cartridge filters for use with pressurized or compressed air and, in particular, for use where the compressed air expands to atmospheric pressure, such as "in relation to exhaust ports of control valves and driven motors" (col. 1, lines 46-56). Hunter '066 does not disclose any accompanying chambers, such as the claimed incubator chamber, to be used in conjunction with the filter. In contrast, the air in the incubator environment of Hugh '687 circulates at atmospheric or slightly higher

pressure. Further, Hunter '066 fails to teach or suggest how the cartridge filter may be adapted for use in the incubator of Hugh '687.

Moreover, while the filters of Hunter '066 are capable of removing vapors, odors and smells from air, Hunter '066 fails to teach or suggest any attachment of such filters to an incubator, let alone positioning the filter inside an incubator chamber. Thus, without further teaching, and without the benefit of improper hindsight of Appellants' own disclosure, one of ordinary skill in the art would not have been motivated to combine Hunter '066 with Hugh '687. "It is impermissible to use the claimed invention as an instruction manual or 'template' to piece together the teachings of the prior art so that the claimed invention is rendered obvious. . . . '[O]ne cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to depreciate the claimed invention.'" In re Fritch, 23 USPQ2d 1780, 1784 (Fed. Cir. 1992)(citation omitted). The Examiner has not pointed to any prior art reference that teaches or suggests removably attaching a filter disposed within an incubator chamber to a blower. For the reasons stated above, the Examiner has failed to set forth a prima facie case of obviousness in rejecting claims 1, 8 and 9 and Appellants respectfully request that these rejections be reversed.

2. **Alleged Combination Still Fails to Suggest Claimed Filter Configuration**

Even if combined, the independent combinations of Nagafune '339, Kudirka '173, and Hunter '066, with Hugh '687, would not have suggested Appellants' claimed arrangement of the VOC filter and the blower. Appellants'

independent claim 1 recites, among other elements, "a VOC filter removably attached to the inlet of said blower." Appellants position the VOC filter before, or upstream of the blower.

In contrast, the apparatus of Nagafune '339 draws air through a primary filter 1 (not taught to be a chemical filter) into a fan 3, and expels the air from fan 3 through a chemical filter 4, and finally through a HEPA filter 5 for channeling into an air-drying unit (Fig. 1, nos. 3, 4, 5, col. 2, lines 23-36 and lines 56-61). Thus, the chemical filter 4 and HEPA filter 5 of Nagafune '339 are positioned after the fan, and not before, as called for in Appellants' independent claim 1. Further, the disclosure of Nagafune '339 fails to suggest positioning filters 4 and 5 before fan 3 to allow chemical-free air to pass through fan 3. In fact, Nagafune '339 teaches that positioning the chemical filter after the fan "allow[s] the air to pass through the chemical filter 4 at a velocity of about 1 m/s to maintain the absorbing efficiency of the chemical mists" (col. 3, lines 9-11), thereby teaching away from Appellants' claimed arrangement.

Accordingly, the combination of Hugh '687 and Nagafune '339 would only suggest placing the chemical filter and the HEPA filter after the blower, or placing the chemical filter after the blower and the HEPA filter before the blower. Neither of these orientations disclose placing the chemical filter before the blower, as called for in Appellants' claims. Appellants' attachment of the VOC filter to the inlet of the blower allows the VOC filter to be positioned within the incubator. This feature greatly simplifies repair or replacement of the VOC filter by enabling filter

access without the removal of hardware. Similarly, positioning the VOC filter before the blower allows the filter to be contained directly within the chamber atmosphere, which eliminates VOC contamination from the gas circulating in the chamber. None of these advantages would be realized by any hypothetical combination of the cited art. Moreover, the combination of Hugh '687 and Nagafune '339 would not have rendered Appellants' independent claim 1 and dependent claims 8 and 9 obvious to one of ordinary skill in the art.

Similarly, in the room air treatment system of Kudirka '173, the HEPA filter 70 is deliberately positioned after the blower. "Blower assembly 40 is located upstream of HEPA filter 70 so that any carbon particles that may be carried from carbon filters 20 and 30 are trapped in HEPA filter 70" (underlining added, col. 5, lines 12-15). Moreover, Kudirka '173 limits the blower and filter order by stating "the foregoing filters and blower assembly are arranged in cabinet 100 in the order indicated" (Fig. 2 and col. 6, lines 9-10). In contrast, Hugh '687 positions the HEPA filter before the blower. Thus, Kudirka '173 teaches away from Hugh '687 and, on this basis, one of ordinary skill in the art would not be motivated to combine Kudirka '173 and Hugh '687. Even if combined, however, the combination would fail to teach, suggest or motivate a VOC filter attached "to the inlet of said blower" and, therefore, would not have rendered Appellants' independent claim 1 and dependent claims 8 and 9 obvious to one of ordinary skill in the art.

Likewise, the vapor, odor, and smell removing filter of Hunter '066 is not "attached to the inlet of said blower." As previously discussed, Hunter '066 fails to teach or suggest any location of the filter with respect to a blower. Accordingly, a hypothetical combination of Hunter '066 and Hugh '687 would not motivate one of ordinary skill in the art to position a VOC filter at the inlet of a blower, as called for in Appellants' independent claim 1. Therefore, the combination of Hunter '066 and Hugh '687 would not have rendered Appellants' independent claim 1 and dependent claims 8 and 9 obvious to one of ordinary skill in the art. For the reasons stated above, Appellants request that the rejection of claims 1, 8 and 9 be reversed.

B. The Rejection of Claims 2-7, 10 and 13-17 Under 35 U.S.C. § 103(a)

Claims 2-7, 10 and 13-17 also stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Hugh, U.S. Patent No. 6,117,687 (Hugh '687), in view of Nagafune et al., U.S. Patent No. 5,827,339 (Nagafune '339), Kudirka et al., U.S. Patent No. 4,737,173 (Kudirka '173) and Hunter et al., U.S. Patent No. 4,559,066 (Hunter '066).

Claim 10 is the only independent claim in this group, and is representative of the claims as rejected over prior art. Claim 10 reads:

1. A controlled atmosphere incubator comprising:

a cabinet including a chamber having walls enclosing an interior incubating space;

a plenum formed in said chamber and providing an air flow path through said chamber;

a high flow rate blower mounted in said air flow path of said chamber, said air flow path extending through said interior incubating space;

a HEPA filter removably mounted within said chamber and in said air flow path to filter air traveling to said blower; and

a VOC filter removably mounted within the gaseous environment of said chamber and coupled to said HEPA filter, wherein one of said VOC filter and said HEPA filter is disposed circumferentially about the other of said VOC filter and said HEPA filter.

The Examiner's rejection of pending claims 2-7, 10 and 13-17 should be reversed because the claimed combination of elements in an incubator is neither taught nor suggested by the cited prior art. The Examiner has used improper hindsight to piece together features of the claimed invention. Appellants thus respectfully disagree with the rejections and submit that the claims are patentable in light of the arguments presented below.

As discussed above, none of the references cited by the Examiner, either alone or in combination, teach use of a VOC filter in an incubator. Nor do any of the references teach circumferentially positioning one of a VOC filter and a HEPA filter about the other, as set forth in claim 10. While Hugh '687 teaches the benefits of including a (nonchemical) HEPA filter in an incubator, Nagafune '339,

Kudirka '173, and Hunter '066 simply do not teach or suggest the use of a chemical filter to remove chemicals from the air inside an incubator environment for all of the reasons previously discussed. Nor do any of the references suggest combining the VOC and HEPA filters as set forth in claim 10.

Furthermore, none of Nagafune '339, Kudirka '173 or Hunter '066 teach or suggest the need to purify air in an incubator environment, or to position the claimed filters within an incubator. Accordingly, one of ordinary skill in the art would not have been motivated to combine the teachings of Hugh '687 with any of Nagafune '339, Kudirka '173, or Hunter '066 to construct Appellants' claimed invention.

Moreover, even if the references were somehow combined by one of ordinary skill in the incubator art, which Appellants submit is unsuggested, the combination would fail to teach additional aspects of Appellants' claimed relationship between the filters and the blower. For at least these reasons, which will be discussed in greater detail below, Appellants submit that the claimed invention would not have been obvious and the Examiner's rejections should be reversed.

1. **References Fail to Suggest or Motivate Filter Combination in an Incubator**

As discussed above in connection with the rejection of claim 1, Hugh '687 relates to an incubator having an interior chamber and fails to disclose the claimed "VOC filter removably attached to the inlet of the blower" (Final Office

Action, page 2, lines 17-18). However, the Examiner stated that it would have been obvious "to adopt a chemical filter as taught by any one of Nagafune et al, Kudirka et al and Hunter et al in the incubator of Hugh" (Final Office Action, page 4, lines 10-14).

For substantially similar reasons as those stated above in connection with the rejection of claim 1, there is no requisite suggestion or motivation to combine the cited references and removably mount a VOC filter in the gaseous environment of an incubator. Moreover, there is no suggestion or motivation offered by the Examiner or within the cited references for circumferentially positioning one of a VOC filter and a HEPA filter about the other as set forth in claim 10. Thus, without further teaching, and without the benefit of improper hindsight of Appellants' own disclosure, one of ordinary skill in the art would not have been motivated to combine any of Nagafune '339, Kudirka '173 or Hunter '066 with Hugh '687. "It is impermissible to use the claimed invention as an instruction manual or 'template' to piece together the teachings of the prior art so that the claimed invention is rendered obvious. . . . '[O]ne cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to depreciate the claimed invention.'" In re Fritch, 23 USPQ2d 1780, 1784 (Fed. Cir. 1992)(citation omitted). For the reasons stated above, the Examiner has failed to set forth a prima facie case of obviousness for rejection of claims 2-7, 10 and 13-17 and Appellants respectfully request that these rejections be reversed.

2. **Alleged Combination Still Fails to Suggest Claimed Filter Configuration**

Even if combined, the independent combinations of Nagafune '339, Kudirka '173, and Hunter '066, with Hugh '687, would not have suggested Appellants' claimed combination of a VOC filter and a HEPA filter removably mounted within an incubator chamber to filter air traveling to a blower.

In contrast, the chemical and HEPA filters of Nagafune '339 are positioned after or downstream of a fan. Accordingly, the combination of Hugh '687 and Nagafune '339 would only suggest placing the chemical filter and the HEPA filter after the blower, or placing the chemical filter after the blower and the HEPA filter before the blower. Furthermore, neither of these references disclose circumferentially positioning one of a VOC filter and a HEPA filter about the other, or placing the resultant VOC/HEPA filter combination before the blower, as called for in claim 10. Moreover, and with further regard to the hypothetical Hugh '687 and Nagafune '339 combination where the chemical filter is placed after the blower and the HEPA filter before, no teaching exists to couple the chemical filter to the HEPA filter as set forth in claim 10. Thus, the combination of Hugh '687 and Nagafune '339 would not have rendered Appellants' independent claim 10 and dependent claims 2-7 and 13-17 obvious to one of ordinary skill in the art.

Similarly, in the room air treatment system of Kudirka '173, the HEPA filter 70 is deliberately positioned after the blower. Moreover, Kudirka '173 limits the blower and filter order by stating "the foregoing filters and blower assembly are arranged in cabinet 100 in the order indicated (Fig. 2 and col. 6, lines 9-10). In

contrast, Hugh '687 positions the HEPA filter before the blower. Thus, Kudirka '173 teaches away from Hugh '687 and, on this basis, one of ordinary skill in the art would not be motivated to combine Kudirka '173 and Hugh '687. Even if combined, however, the combination would fail to teach, suggest or motivate a VOC filter and a HEPA filter positioned "to filter air traveling to said blower" and therefore, would not have rendered Appellants' independent claim 10 and dependent claims 13-17 obvious to one of ordinary skill in the art.

As previously discussed, Hunter '066 fails to teach or suggest <u>any</u> location of the filter with respect to a blower. Accordingly, a combination of Hunter '066 and Hugh '687, if combined, would not suggest to one of ordinary skill in the art, positioning a VOC/HEPA filter combination such that it filters air traveling to a blower, as called for in Appellants' independent claim 10. Therefore, the combination of Hunter '066 and Hugh '687 would not have rendered Appellants' independent claim 10 and dependent claims 2-7 and 13-17 obvious to one of ordinary skill in the art. For the reasons stated above, Appellants request that the rejection of claims 2-7, 10 and 13-17 be reversed.

IX. Conclusion

For the reasons stated, Appellants respectfully urge the Board to reverse the rejection of claims 1-10 and 13-17.

Respectfully submitted,

WOOD, HERRON & EVANS, L.L.P.

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APPENDIX OF CLAIMS

1. (Original) A controlled atmosphere incubator comprising:

a heater;

a cabinet including a chamber housing a gaseous environment, said chamber being in thermal communication with the heater and surrounded by top, bottom, rear and side walls and having a front side with an opening;

an outer door pivotally mounted to said front side;

a high flow rate blower mounted within said cabinet and including an inlet and an outlet;

a plenum formed in said chamber and providing an air circulation path through said chamber, said plenum being partially formed by a plate mounted across said chamber and between the inlet and outlet of said blower; and

a VOC filter removably attached to the inlet of said blower, said VOC filter being disposed within the gaseous environment of said chamber.

2. (Original) The controlled atmosphere incubator of claim 1 further including a HEPA filter coupled to said VOC filter and contained within said chamber.

3. (Original) The controlled atmosphere incubator of claim 2 wherein said VOC filter is disposed circumferentially about said HEPA filter.

4. (Original) The controlled atmosphere incubator of claim 2 wherein said VOC filter further includes a first molecular sieve element.

5. (Original) The controlled atmosphere incubator of claim 4 wherein said first molecular sieve element is selected from the group consisting of carbon, activated carbon, silica, zeolites, and silica zeolites.

6. (Original) The controlled atmosphere incubator of claim 5 wherein said VOC filter further includes a second molecular sieve element.

7. (Original) The controlled atmosphere incubator of claim 6 wherein said second molecular sieve element is selected from the group consisting of carbon, activated carbon, silica, zeolites, and silica zeolites.

8. (Original) The controlled atmosphere incubator of claim 1 wherein said plate is mounted adjacent an upper wall of said chamber to form said plenum between said plate and said upper wall.

9. (Original) The controlled atmosphere incubator of claim 8 wherein said inlet extends below said plate and said VOC filter is mounted adjacent to a lower surface of said plate.

10. (Previously Amended) A controlled atmosphere incubator comprising:

a cabinet including a chamber having walls enclosing an interior incubating space;

a plenum formed in said chamber and providing an air flow path through said chamber;

a high flow rate blower mounted in said air flow path of said chamber, said air flow path extending through said interior incubating space;

a HEPA filter removably mounted within said chamber and in said air flow path to filter air traveling to said blower; and

a VOC filter removably mounted within the gaseous environment of said chamber and coupled to said HEPA filter, wherein one of said VOC filter and said HEPA filter is disposed circumferentially about the other of said VOC filter and said HEPA filter.

11. (Canceled)

12. (Canceled)

13. (Previously Amended) The controlled atmosphere incubator of claim 10 wherein said VOC filter is disposed circumferentially about said HEPA filter.

14. (Previously Amended) The controlled atmosphere incubator of claim 10 wherein said VOC filter further includes a first molecular sieve element.

15. (Original) The controlled atmosphere incubator of claim 14 wherein said first molecular sieve element is selected from the group consisting of carbon, activated carbon, silica, zeolites, and silica zeolites.

16. (Original) The controlled atmosphere incubator of claim 15 wherein said VOC filter further includes a second molecular sieve element.

17. (Original) The controlled atmosphere incubator of claim 16 wherein said second molecular sieve element is selected from the group consisting of carbon, activated carbon, silica, zeolites, and silica zeolites.